

1. BOSC 2017 Nominations

Self Nomination:

Yes

Nominator Information

First Name

Last Name

Nominator Title

Street Address

City

State

Postal Code

Email Address

Phone Number

Mobile Phone

Nominee Information

First Name

Stephen

Last Name

Weisberg

Nominee Title

Executive Director - SCCWRP

Street Address

Exemption 6

Employment Information

Place of Employment/Work:

Southern California Coastal Water Research Project Authority

Work Street Address

3535 Harbor Blvd

Work City

Costa Mesa

Work State:

California

Work Postal Code

92626

Work Phone Number

714-755-3203

Work Email Address

stevev@sccwrp.org

Sector

State Government

Qualifications**Primary Area(s) of Expertise**

Dr. Weisberg is an aquatic biologist, but his true expertise is in translating leading-edge science to management relevance. He is currently the Executive Director of a California research institute created to provide a scientific foundation for California's water quality management activities including support for criteria development, technology development and testing to improve the speed and accuracy of waterbody measurements, assessment tool development to determine compliance and track trends, and ensuring implementation success of management actions once those decisions are made. Dr. Weisberg's personal research focuses on developing molecular assessment tools to support environmental monitoring programs, particularly those for beach water quality. He is a national leader in aquatic monitoring programs, having established the Southern California Bight regional monitoring program, previously led the benthic component of the Chesapeake Bay monitoring program, and was part of the technical team that created the U.S. EPA's Environmental Monitoring and Assessment Program.

Committee Preference(s)

Safe and Sustainable Water Resources Subcommittee

Statement of Interest

The Southern California Coastal Water Research Project Authority (SCCWRP) is a research consortium formed by 14 of California's leading water quality management agencies. Dr. Weisberg leads SCCWRP, serving these California agencies in a manner similar to how EPA's Office of Research and Development (ORD) serves the Office of Water, conducting research to ensure their policy development is scientifically-founded. As his organization's mission parallels that of EPA ORD, Dr. Weisberg is interested in providing perspective to ORD about the most prominent water quality issues facing California and in ensuring coordination between ORD activities and research being conducted in California. Since California often leads the nation in environmental regulatory issues, this perspective provides unparalleled opportunity to share how ORD projects can best transition (or not) toward state-level adoption. In addition, Dr. Weisberg is interested in ensuring that the issues unique to California are considered in ORD's research portfolio. In particular, he will offer perspectives informed by differences in rainfall patterns between southwestern states and locales where ORD presently operates (there are no ORD labs in California), and the resulting effects those rainfall patterns have on water supply and ambient water quality issues.

Skills/qualifications related to committee preference(s) specified

In his role as Director of SCCWRP, as well as in his role on several State of California Scientific Advisory Committees, he is well versed in the technical challenges faced by agencies in developing water quality criteria and translating those criteria into management applications ranging from discharge monitoring

requirements, 303d assessments, through watershed management plans. In those roles, Dr. Weisberg has experience in multiple technical areas, including chemistry, toxicology, microbiology, nutrients/eutrophication and bioassessment in freshwater, estuarine, and marine environments, coincident with many of the areas that the Committee will be asked to provide input. Dr. Weisberg is also thoroughly familiar with the increasing connection between ambient and drinking water quality issues, as California is moving quickly towards both indirect and direct potable reuse of wastewater and stormwater.

Other Relevant Information

Beyond his scientific credentials, Dr. Weisberg will bring to the Committee a thorough understanding of the connection between science and management. His organization's mission is to conduct water quality research, but with equal emphasis on bridging the gap between water-quality research and the management community that relies on this science. He routinely interacts with the leading water quality managers in California (most of them are on his organization's Governing Board) and is well-practiced in preparing reports at an appropriate level to achieve committee effectiveness.

In addition, Dr. Weisberg has extensive experience on state and federal advisory panels, including a previous BOSC subcommittee (Water Quality mid-term Committee). As such, he is familiar with FACA procedures and special federal employee rules. His previous experience on advisory committees has allowed him to hone his consensus-building skills and facilitate effective group dynamics. That experience also provided him an understanding of the time commitments necessary to fulfill the position and he has the support from his organization's Governing Board to volunteer that level of participation to the BOSC.

CV/Resume URL

<http://www.sccwrp.org/AboutSCCWRP/SCCWRPStaff/WeisbergSteve/Resume.aspx>

2. CV/Resume

Please upload your CV/ Resume.

[Weisberg_resume_for_EPA_BOSC_nomination.doc](#)

3.

BOSC Nomination

Jun 30, 2017 16:29:35 Success: Email Sent to: tracy.tom@epa.gov

4. Thank You for your Submission!

STEPHEN B. WEISBERG

Exemption 6

EDUCATION

<u>Institution</u>	<u>Degree</u>	<u>Date</u>
University of Michigan	BGS (Honors)	1971-1974
University of Delaware	Ph.D. Biology	1976-1981

PROFESSIONAL EXPERIENCE

Executive Director, Southern California Coastal Water Research Project Authority. Costa Mesa, CA. 1996 - present. Leads an interdisciplinary research institute (annual budget \$10M; 70 employees) that is formed by the 14 leading water quality management agencies in California to provide the scientific foundation for their management activities. Interacts with the Authority's Governing Board to set policy and program priorities, supervises activities of scientific and administrative staff, and represents the agency to the research community. Also maintains a personal research program, which focuses on developing molecular-based assessment tools and facilitating their incorporation into environmental monitoring programs.

Manager, Monitoring and Field Operations. Versar, Inc. Columbia, MD. 1981 - 1996. Senior scientist at a large environmental consulting firm, responsible for supervising a staff of 20 scientists. Research objectives focused on designing, implementing and interpreting data from regional and national environmental monitoring programs. Directed the benthic macroinvertebrate component of the Chesapeake Bay Monitoring Program and led development of the Chesapeake Bay Program's Benthic Macroinvertebrate Restoration Goals. Assisted in developing the Coastal component of EPA's Environmental Monitoring and Assessment Program and prepared that program's first interpretive report. Helped design monitoring programs for several of the National Estuary Programs, including the Tampa Bay Estuary Program, the New York/New Jersey Harbors Estuary Program and the Delaware Inland Bays Estuary Program.

Visiting Assistant Professor, West Chester State University. West Chester, PA. 1980. Taught courses in general ecology and wildlife biology as a sabbatical replacement.

Research Assistant, University of Delaware. Newark, DE. 1978 - 1981. Participated in research projects to describe energy flow within tidal marshes, and nutrient exchange between tidal marshes and Delaware Bay.

Consultant to the Delaware Department of Natural Resources and Environmental Control. Dover, DE. 1980. Taught courses on use of computer software in analysis of fisheries data.

Teaching Assistant, University of Delaware. Newark, DE. 1976 - 1977. Taught laboratory courses in general biology, ecology, and physiology.

Biologist, U. S. Geological Survey. Doraville, GA. 1975. Worked as an algal taxonomist in the National Stream Quality Network (NASQAN) program. Also conducted measurements of chlorophyll pigments and algal growth potential.

Tour guide, University of Michigan Museum of Natural History. Ann Arbor, MI. 1973 - 1974. Presented public tours of the museum on topics including paleontology, archaeology and ecology.

PROFESSIONAL APPOINTMENTS

California Ocean Protection Council Scientific Advisory Team (2008-Present; Co-Chair 2009)

California Water Quality Monitoring Council (2008-Present)

California Sea Grant Advisory Board (2011-Present)

University of Southern California Sea Grant Advisory Board (1998-Present)

California Clean Beach Task Force (2001-Present)

Standard Methods Committee - Biological Examination, American Water Works Association (2012-Present)

California Ocean Protection Council's Acidification and Hypoxia Science Panel (2013-2016)

California Current Acidification Network Steering Committee (Chair, 2013-2015)

Ocean Acidification International Reference User Group, Ocean Acidification International Coordination Centre (2013-Present)

National Association of Marine Laboratories Board of Directors (2014- Present)

Western Association of Marine Laboratories Board of Directors (2013-Present, President 2015-Present)

Chesapeake Bay Water Quality Criteria Addendum Technical Review Committee (2016-2017)

Chapman University School of Earth and Environmental Science Advisory Council (2013-2016)

California Ocean Science Trust Governing Board (2007-2014; Chair 2009-2011)

NOAA Science Advisory Board Ocean and Human Health Workgroup (Chair, 2009-2010)

US EPA Board of Scientific Counselors Water Quality Committee (2006-2009)

US EPA Science Advisory Board Report on the Environment Committee (2010-2014)

Hollings Marine Laboratory Scientific Advisory Committee (Chair, 2011-2012)

California South Coast Marine Life Protection Act Science Advisory Team (2008-2009)

Alliance for Coastal Technologies Governing Board (Chair, 2010-2012)

Alliance for Coastal Technologies Stakeholders Council (2001-2009)

Ocean Research and Resources Advisory Panel (2003-2007; Vice-chair 2005-2007)

Ocean Research and Resources Advisory Panel – Ocean Observations Committee (2008-2010)

National Science and Technology Council Joint Subcommittee on Ocean Science and Technology (Ex-officio 2005-2007)

US Global Ocean Observing System Steering Committee (1998-2006; Vice-Chair 2003-2006)

Hollings Marine Laboratory Oceans and Human Health Scientific Advisory Committee (2004)

Center for Integrated Coastal Observation, Research and Education Advisory Council (2003-2006)

Southern California Wetlands Recovery Program Science Advisory Panel (1999-2005; Chair 1999-2003)

Southern California Coastal Ocean Observing System Governing Board (2005-Present)

Southern California Regional Monitoring Steering Committee (Co-chair 1993-1997; Chair 1997-Present)
Carolinas Coastal Ocean Observing and Predicting System Scientific Advisory Committee (Chair 2003-2005)
San Francisco Estuary Institute Ecological Effects Review Panel (2007-Present)
San Francisco Estuary Institute Regional Monitoring Program Review Panel (2003)
National Academy of Sciences Indicators of Waterborne Pathogens Panel (2002-2004)
Heinz Center State of the Nation's Ecosystems Coasts and Oceans Workgroup (1999-2002)
Center for Environmental Analysis External Advisory Board (2003-2005)
Adjunct Professor, California State University, Long Beach (1997-2000)
Adjunct Associate Professor, University of Maryland (1986-1995)
Ohio River Basin Commission Committee on Hydroelectric Licensing and Legislation (1983)
Interstate Commission for the Potomac River Basin Instream Flow Committee (1983-1986)
National Estuary Program Technical Advisory Committees:
 Delaware Estuary Program (1993-1996)
 New York/New Jersey Harbor Estuary Program (1994-1996)
 Santa Monica Bay Restoration Program (1996-2002)

HONORS AND AWARDS

US Environmental Protection Agency Level II Scientific and Technological Achievement Award, 2013
US Department of the Interior Partners in Conservation Award, 2012
University of Delaware Distinguished Alumnus Award, 2006
Tibor T. Polgar Award for Research Excellence, 1990
Delaware Sea Grant Award for Outstanding Doctoral Research, 1981
Best Student Paper Award - Atlantic Estuarine Research Society, 1981
Dean's List, University of Michigan - 1972, 1973
Sigma Xi
Who's Who Among High School Students

GRADUATE STUDENT COMMITTEES

João Paulo Medeiros, Ph.D. University of Lisbon, Portugal (Ongoing)
Donna Ferguson, Ph.D. UCLA (2014)
Heliana Teixeira, Ph.D. University of Coimbra, Portugal (2010)
Mitzi Taggart, Ph.D. UCLA (2004)
Rachel Noble, Post-doctoral Advisor (2001-2002)
Krista Kamer, Post-doctoral Advisor (2004-2005)
Meredith Howard, Post-doctoral Advisor (2007-2008)

PROFESSIONAL SOCIETY LEADERSHIP

Coastal and Estuarine Research Federation
 2013 National Meeting Chair
 2015 National Meeting Steering Committee
 Finance Committee (2005-2015)
California Estuarine Research Society

Governing Board (2003-2004)
Western Association of Marine Laboratories
Governing Board (2012-Present)
President (2015-Present)
National Association of Marine Laboratories
Governing Board (2014-Present)

PUBLICATIONS

(Orcid ID: 0000-0002-0655-9425; Scopus Author ID: 7006652796; Researcher ID: B-2477-2008)

Benjamin-Chung, J. B.F. Arnold, T.J. Wade, K. Schiff, J.F. Griffith, A.P. Dufour, S.B. Weisberg and J.M. Colford. 2017. Coliphages as indicators of gastrointestinal illness in recreational waters: A pooled analysis of six prospective coastal beach cohorts. *Epidemiology* In press.

Arnold, B.F. K.C. Schiff, A. Ercumen, J. Benjamin-Chung, J.A. Steele, J.F. Griffith, S.J. Steinberg, P. Smith, C.D. McGee, R. Wilson, C. Nelsen, S.B. Weisberg, and J.M. Colford, Jr. 2017. Acute illness among surfers following dry and wet weather seawater exposure. *American Journal of Epidemiology* In press.

DeFlorio-Barker, S., B.F. Arnold, E.A. Sams, A.P. Dufour, J.M. Colford, S.B. Weisberg, K.C. Schiff, and T.J. Wade. Child environmental exposures to water and sand at the beach: Findings from studies of over 68,000 subjects at 12 beaches. *Journal Of Exposure Science And Environmental Epidemiology* In press.

McLaughlin, K., N.P. Nezlin, S.B. Weisberg A. Dickson, C.L. Cash, A. Feit, J.R. Gully, S. Johnson, A. Latker, M.J. Mengel, G.L. Robertson, A. Steele, and L. Terriquez. 2017. An evaluation of potentiometric pH sensors in coastal monitoring applications. *Limnology and Oceanography Methods* In press

Bednaršek, N.A, T. Klinger, C.J. Harvey, S. Weisberg, R.M. McCabe, R.A. Feely, J. Newton, and N. Tolimieri. 2017. New ocean, new needs: Application of pteropod shell dissolution as a biological indicator for marine resource management. *Ecological Indicators* 76:240–244.

McLaughlin, K., A. Dickson, S.B. Weisberg, K. Coale, V. Elrod, C. Hunter, K.S. Johnson, S. Kram, R. Kudela, T. Martz, K. Negrey, U. Passow, F. Shaughnessy, D. Tadesse, L. Washburn, and K.R. Weis. 2017. An evaluation of ISFET sensors for coastal pH monitoring applications. *Regional Studies in Marine Science* 12:11-18. <http://dx.doi.org/10.1016/j.rsma.2017.02.008>

Weisberg, S.B., N. Bednarsek, R.A. Feely, F. Chan, T.S. Fleming, A.B. Boehm, M. Sutula, J.L. Ruesink, B. Hales, J.L. Largier, and J.A. Newton. 2016. Water quality criteria for an acidifying ocean: Challenges and opportunities for improvement. *Ocean and Coastal Management* 126:31–41. dx.doi.org/10.1016/j.ocecoaman.2016.03.010

Arnold, B.F., T.J. Wade, J. Benjamin-Chung, K.C. Schiff, J.F. Griffith, A.P. Dufour, S.B. Weisberg and J.M. Colford, Jr. 2016. Acute gastroenteritis and recreational water: Highest burden among young US children. *American Journal of Public Health* 106:1690–1697. [doi:10.2105/AJPH.2016.303279](http://dx.doi.org/10.2105/AJPH.2016.303279)

Ferguson, D.M. G.N. Talavera, L.R. Hernández, R.F. Ambrose, J.A. Jay and S.B. Weisberg. 2016. Virulence genes among *E. faecalis* and *E. faecium* isolated from coastal beaches and potential sources in southern California and Puerto Rico. *Journal of Pathogens* dx.doi.org/10.1155/2016/3437214

- Griffith, J.G., S.B. Weisberg, B.F. Arnold, Y. Cao, K.C. Schiff, and J.M. Colford, Jr. 2016. Epidemiologic evaluation of alternate microbial water quality monitoring indicators at three California beaches. *Water Research* 94:371-381. doi: 10.1016/j.watres.2016.02.036
- Haugland, R.A., S. Sieftring, M. Varma, K.H. Oshima, M. Sivaganesan, Y. Cao, M. Raith, J. Griffith, S.B. Weisberg, R.T. Noble, A.D. Blackwood, J. Kinzelman, T. Anan'eva, R.N. Bushon, V.J. Harwood, K.V. Gordon and C. Sinigalliano. 2016. Multi-laboratory survey of qPCR enterococci analysis method performance in U.S. coastal and inland surface waters. *Journal of Microbiological Methods* 123:114-125.
- Ferguson, D.M., S.B. Weisberg, J.F. Griffith, C. Hagedorn, K. De Leon, V. Mofidi, J. Wolfe, M. Zimmerman and J.A. Jay. 2016. *Enterococcus* growth on eelgrass (*Zostera marina*); Implications for water quality. *FEMS Microbiology Ecology* 92:1-7. doi: 10.1093/femsec/fiw047
- Scott, G.I., D.E. Porter, G.T. Chandler, S. Norman, C.H. Scott, M. Uyaguari, K. Maruya, S.B. Weisberg, M.H. Fulton, E.F. Wirth, J. Moore, P.L. Pennington, D. Schlenk, N.D. Denslow, and G. Cobb. 2016. Antibiotics as CECs: An overview of the hazards posed by antibiotics and antibiotic resistance. *Frontiers in Marine Science* 3:24. doi:10.3389/fmars.2016.00024.
- Nezlin, N.P., J.A.T. Booth, C. Beegan, C.L. Cash, J.R. Gully, M.J. Mengel, G.L. Robertson, A. Steele and S.B. Weisberg. 2016. Assessment of wastewater impact on dissolved oxygen around southern California's submerged ocean outfalls. *Regional Studies in Marine Science* 7:177-184. doi: 10.1016/j.rsma.2016.03.016
- Murray, S.N., S.B. Weisberg, P.T. Raimondi, R.F. Ambrose, C. Bell, C.A. Blanchette, J.L. Burnaford, M.N. Dethier, J.M. Engle, M.S. Foster, C.M. Miner, K.J. Nielsen, J.S. Pearse, D.V. Richards, and J.R. Smith. 2016. Evaluating the ecological states of west coast rocky intertidal communities: A best professional judgment exercise. *Ecological Indicators* 60:802-814. dx.doi.org/10.1016/j.ecolind.2015.08.017
- Maruya, K.A., N.G. Dodder, A.C. Mehinto, N.D. Denslow, D. Schlenk, S.A. Snyder and S.B. Weisberg. 2015. A tiered, integrated biological and chemical monitoring framework for contaminants of emerging concern (CECs) in aquatic ecosystems. *Integrated Environmental Assessment and Management* 12: 540-547. doi:10.1002/ieam.1702.
- Barton, A., G. Waldbusser, R. Feely, S.B. Weisberg, J. Newton, B. Hales, S. Cudd, B. Eudeline, C. Langdon, I. Jefferds, T. King, A. Suhrbier, and K. McLaughlin. 2015. Impacts of coastal acidification on the Pacific Northwest shellfish industry and adaptation strategies implemented in response. *Oceanography* 28:146-159. dx.doi.org/10.5670/oceanog.2015.38.
- McLaughlin, K., S.B. Weisberg, A. Dickson, G. Hofmann, J. Newton, D. Aseltine-Neilson, A. Barton, S. Cudd, R.A. Feely, I.W. Jefferds, L. Jewett, T. King, C. Langdon, S. McAfee, D. Pleschner-Steele, and B. Steele. 2015. Core principles for a nearshore marine acidification monitoring network: linking chemistry, physics and ecological effects. *Oceanography* 28:160-169. dx.doi.org/10.5670/oceanog.2015.39

Cooley, S., L. Jewett, J. Reichert, L. Robbins, G. Shrestha, D. Wieczorek, and S.B. Weisberg. 2015. Getting ocean acidification on decision makers' to-do lists: Dissecting the process through case studies. *Oceanography* 28:198–211. [dx.doi.org/10.5670/oceanog.2015.42](https://doi.org/10.5670/oceanog.2015.42).

Boehm, A.B., M.Z. Jacobson, M.J. O'Donnell, M. Sutula, W. Wakefield, S.B. Weisberg and E. Whiteman. 2015. Ocean acidification science needs for natural resource managers of the North American west coast. *Oceanography* 28:170–181. [dx.doi.org/10.5670/oceanog.2015.40](https://doi.org/10.5670/oceanog.2015.40).

Gillett, D.J., S.B. Weisberg, T. Grayson, A. Hamilton, V. Hansen, E.W. Leppo, M.C. Pelletier, A. Borja, D. Cadien, D. Dauer, R. Diaz, M. Dutch, J.L. Hyland, M. Kellogg, P.F. Larsen, J. Levinton, R. Llansó, L.L. Lovell, P. Montagna, D. Pasko, C.A. Phillips, C. Rakocinski, J.A. Ranasinghe, D.M. Sanger, H. Teixeira, R.F. Van Dolah, R.G. Velarde, and K.I. Welch. 2015. Effect of ecological group classification schemes on performance of the AMBI benthic index in US coastal waters. *Ecological Indicators* 50:99–107. [dx.doi.org/10.1016/j.ecolind.2014.11.005](https://doi.org/10.1016/j.ecolind.2014.11.005)

Booth, J.A.T., C.B. Woodson, F. Micheli, S.B. Weisberg, M. Sutula, S. Bograd, A. Steele, J. Schoen and L.B. Crowder. 2014. Patterns and potential drivers of declining oxygen content along the southern California coast. *Limnology and Oceanography* 59:1127–1138. DOI: 10.4319/lo.2014.59.4.1127

Yau, V, K.C. Schiff, B.F. Arnold, J.F. Griffith, J.S. Gruber, C.C. Wright, T.J. Wade, S. Burns, J.M. Hayes, C. McGee, M. Gold, Y. Cao, A. Boehm, S.B. Weisberg, and J.M. Colford, Jr. 2014. Effect of submarine groundwater discharge on bacterial indicators and swimmer health at Avalon Beach, CA, USA. *Water Research* 59:23–36.

Raith, M.R., D.L. Ebentier, Y. Cao, J.F. Griffith and S.B. Weisberg. 2014. Factors affecting the relationship between quantitative polymerase chain reaction (qPCR) and culture-based enumeration of *Enterococcus* in environmental waters. *Journal of Applied Microbiology* 116:737–746.

Riedel, T.E., A.G. Zimmer-Faust, V. Thulsiraj, T. Madi, K.T. Hanley, D.L. Ebentier, B. Layton, M. Byappanahalli, M. Raith, A.B. Boehm, J.F. Griffith, P.A. Holden, O.C. Shanks, S.B. Weisberg and J.A. Jay. 2014. Detection limits and cost comparisons of human- and gull-associated conventional and quantitative PCR assays in artificial and environmental waters. *Journal of Environmental Management* 136:112–120.

Maruya, K.A., N.G. Dodder, R.A. Schaffner, S.B. Weisberg, D. Gregorio, S. Klosterhaus, D.A. Alvarez, E.T. Furlong, K.L. Kimbrough, G.G. Lauenstein and J.D. Christensen. 2014. Refocusing Mussel Watch on contaminants of emerging concern (CECs): The California pilot study (2009–10). *Marine Pollution Bulletin* 81:334–339.

Maruya, K.A., N.G. Dodder, S.B. Weisberg, D. Gregorio, J.S. Bishop, S. Klosterhaus, D.A. Alvarez, E.T. Furlong, S. Bricker, K.L. Kimbrough, G.G. Lauenstein and G.A. Piniak. 2014. The Mussel Watch California pilot study on contaminants of emerging concern (CECs): Synthesis and next steps. *Marine Pollution Bulletin* 81:355–363.

Bourlat, S.J., A. Borja, J. Gilbert, M.I. Taylor, N. Davies, S.B. Weisberg, J. Griffith, T. Lettieri, D. Field, J. Benzie, F.O. Glöckner, N. Rodríguez-Ezpeleta, D.P. Faith, T.P. Bean and M. Obst.

2013. Genomic methods in marine monitoring: New challenges in assessing marine health status. *Marine Pollution Bulletin* 74: 19-31.

Boehm, A.B., L.C. Van De Werfhorst, J.F. Griffith, P.A. Holden, J.A. Jay, O.C. Shanks, D. Wang and S.B. Weisberg. 2013. Performance of forty-one microbial source tracking methods: A twenty-seven lab evaluation study. *Water Research* 47:6812-6828.

Cao, Y., C. Hagedorn, O.C. Shanks, D. Wang, J. Ervin, J.F. Griffith, B.A. Layton, C.D. McGee, T.E. Riedel and S.B. Weisberg. 2013. Towards establishing a human fecal contamination index in microbial source tracking. *International Journal of Environmental Science and Engineering Research* 4:46-58.

Ervin, J.S., T.L. Russell, B.A. Layton, K.M. Yamahara, D. Wang, L.M. Sassoubre, Y. Cao, C.A. Kelty, M. Sivaganesan, A.B. Boehm, P.A. Holden, S.B. Weisberg and O.C. Shanks. 2013. Characterization of fecal concentrations in human and other animal sources by physical, culture, and quantitative real-time PCR methods. *Water Research* 47:6873-6882.

Stewart, J.R., A. Boehm, E. Dubinsky, T.-T. Fong, K. Goodwin, J. Griffith, R. Noble, O.C. Shanks, V. Kannappan and S.B. Weisberg. 2013. Recommendations following a multi-laboratory comparison of microbial source tracking methods. *Water Research* 47:6829-6838.

Arnold, B.F., K.C. Schiff, J.F. Griffith, J.S. Gruber, V.M. Yau, C.C. Wright, T.J. Wade, S. Burns, J.M. Hayes, C. McGee, M. Gold, Y. Cao, S.B. Weisberg, and J.M. Colford, Jr. 2013. Swimmer illness associated with marine water exposure and water quality indicators: Impact of widely used assumptions. *Epidemiology* 24:845-853.

Cao, Y., M. Sivaganesan, J. Kinzelman, A.D. Blackwood and R.T. Noble, R. Haugland, J.F. Griffith and S.B. Weisberg. 2013. Effect of platform, reference material, and quantification model on enumeration of *Enterococcus* by quantitative PCR methods. *Water Research* 47:233-241.

Ferguson, D.M., J.F. Griffith, C.D. McGee, S.B. Weisberg and C. Hagedorn. 2013. Comparison of *Enterococcus* species diversity in marine water and wastewater using Enterolert® and EPA Method 1600. *Journal of Environmental and Public Health* 2013: doi:10.1155/2013/848049.

Thompson, B, J. A. Ranasinghe, S. Lowe, A. Melwani and S.B. Weisberg. 2013. Benthic macrofaunal assemblages of the San Francisco Estuary and Delta. *Environmental Monitoring and Assessment* 185:2281-2295.

Colford, J.M. Jr., K. Schiff, J.F. Griffith, V. Yau, B.F. Arnold, C. Wright, J.S. Gruber, T. Wade, S. Burns, J. Hayes, C. McGee, M. Gold, Y. Cao, R.T. Noble, R. Haugland and S.B. Weisberg. 2012. Using rapid indicators for *Enterococcus* to assess the risk of illness after exposure to urban runoff contaminated marine water. *Water Research* 46:2176-2186.

Cao, Y., J.F. Griffith, S. Dorevitch, and S.B. Weisberg. 2012. Effectiveness of qPCR permutations, internal controls and dilution as means for minimizing the impact of inhibition while measuring *Enterococcus* in environmental waters. *Journal of Applied Microbiology* 113:66-75.

Shanks, O.C., M. Sivaganesan, L. Peed, C.A. Kelty, A.D. Blackwood, M.R. Greene, R.T. Noble, R.N. Bushon, E.A. Stelzer, J. Kinzelman, T. Anan'eva, C. Sinigalliano, D. Wanless, J. Griffith, Y. Cao, S.B. Weisberg, V.J. Harwood, C. Staley, K.H. Oshima, M. Varma, and R.A. Haugland. 2012. Interlaboratory comparison of real-time PCR protocols for quantification of general fecal indicator bacteria. *Environmental Science and Technology* 46:945–953.

Converse, R., J. Griffith, R.T. Noble, R. Haugland, K.C. Schiff and S.B. Weisberg. 2012. Correlation between quantitative polymerase chain reaction and culture-based methods for measuring *Enterococcus* over various temporal scales and three California marine beaches. *Applied and Environmental Microbiology* 78:1237-1242.

Bay, S.M. and S.B. Weisberg. 2012. A framework for interpreting sediment quality triad data. *Integrated Environmental Assessment and Management* 8:589-596.

Ranasinghe, J.A., E.D. Stein, P.E. Miller and S.B. Weisberg. 2012. Performance of two southern California benthic community condition indices using species abundance and presence-only data: relevance to DNA barcoding. *PLoSOne* 7:e40875.

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